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THE INSECT PEST SURVEY
BULLETIN

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OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES

FOR MARCH, 1931.

We wish to call the attention of our readers to the reports on insect conditions in tropical American countries which we are introducing in this volume of the Survey Bulletin. In the first number of this volume insect conditions in Porto Rico were reported by M. D. Leonard, and Marston Bates gave a report on insect pests of Honduras and Guatemala. In this number we have reports from Porto Rico, Honduras, Guatemala, and Mexico. The cosmopolitan aspect that entomology has assumed makes these contributions extremely valuable.

The Hessian fly is reported as comparatively scarce in Virginia and Ohio. On the other hand in western and southeastern Iowa there appears to be a very heavy infestation.

Indications of possible chinch bug trouble have been observed in central Illinois, central Missouri, and southeastern Kansas.

The first observation of eggs of the corn ear worm was reported from Galveston County, Texas, on February 10.

Local damage to peas, vetch, and alfalfa by the pea aphid was reported from the Salt River Valley of Arizona and the Willamette Valley of Oregon.

Eggs of fruit aphids appear to be unusually scarce throughout the entire eastern part of the United States, westward to Kansas.

Throughout the Middle Atlantic and South Atlantic States the codling moth is abnormally abundant. The first observation of pupation was reported March 30 from South Carolina.

Throughout the New England and Middle Atlantic States the eastern tent caterpillar is not numerous. On the other hand, reports of unusual numbers of this insect have been received from Arkansas and Texas. By the 22d of March caterpillars were about full grown in the vicinity of College Station, Tex., and eggs were hatching on March 12 at Fayetteville, Ark.

The San Jose scale is apparently increasing in the Middle Atlantic States and the East Central States. A very high winter survival is reported from central Illinois running from 60 to 70 per cent, while in this district a normal survival is only from 25 to 30 per cent. Survival was also high in the Great Basin section.

The European red mite is reported as unusually abundant in New England and very scarce throughout the Middle Atlantic States.

By March 27, approximately 7 per cent of the overwintering larvae of the oriental fruit moth had pupated at Thomaston, Ga., while we have a report of the emergence of this insect in cages in South Carolina on March 9.

The first overwintering adult of the plum curculio was collected in an orchard at Thomaston, Ga., March 25. Last year the curculio was first observed at this place on March 17. At this time last year over a thousand beetles were collected while only one was collected March 25 this year. Petals were falling from peach trees of the Hiley and Elberta varieties on this date and this advance of the peach crop as compared with the curculio emergence may make it possible to harvest Elberta peaches before the second brood appears. The plum curculio is also emerging later than usual in northern Florida.

Adults of the pear psylla were observed on March 22 at Amherst, Mass.

The green citrus aphid is doing serious damage on the lower east coast of Florida, and there are occasional heavily infested trees as far north as Marion County. Present indications are, however, that the damage will be light this year.

The cottony-cushion scale is again appearing in scattered infestations in the Salt River Valley of Arizona.

The vegetable weevil is spreading around the Gulf of Mexico, having been reported from four counties in Texas and four additional counties in Florida.

The western spotted cucumber beetle left hibernation quarters near Forest Grove, Oreg., January 25, practically a month earlier than last year. In spite of this early issuance, egg development seems later than at this time last year. In March the adults were very numerous in Austrian winter peas; all specimens observed were females.

The first Colorado potato beetles reported this season were from Biloxi, Miss., and College Station, Tex., March 21.

The cabbage aphid is unusually abundant in the vicinity of Norfolk, Va., and in parts of South Carolina.

The beet leafhopper is reported as very abundant in the Lewis Falls district of Idaho. Winter mortality appears to have been very light in this territory.

The California tent caterpillar is extremely prevalent around Phoenix, Ariz., this year, where it is defoliating cottonwood trees and severely injuring apricots.

The Birch leaf-mining sawfly, Phyllotoma nemorata Fallén, is reported from Essex County in New York, where it seems to be well established.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

- West Virginia L. M. Peairs (March 24): Grasshoppers are moderately abundant at Morgantown, the overwintering forms being active.
- Florida J. R. Watson (March 21): Grasshoppers are moderately abundant - about as usual.
- South Dakota H. C. Severin (March 23): We expect more grasshopper trouble over the entire State than we had last year. Some outbreaks are expected in south central South Dakota.
- Nebraska M. H. Swenk (March 20): Eggs of grasshoppers, Melanoplus spp. are moderately abundant.
- Kansas H. R. Bryson (March 20): Grasshoppers, M. bivittatus Say and M. differentialis Thos., are moderately abundant in the western half of Iowa.
- Missouri L. Hasenan (March 23): Grasshoppers are moderately abundant at Columbia. Those reported as hatching early in the year in central Missouri have proved to be a species of Oedipodinae. Not infrequently we find partly grown nymphs of this species present in sunny places before the first of March. At the present time, March 23, nymphs at Columbia were found quite abundant in lawns, meadows, and pastures.
- Mississippi R. W. Harned and assistants (March): A few adults were seen flying on March 18 at Lucedale.
- Alabama J. M. Robinson (March 24): Grasshoppers are moderately abundant in Auburn - adults of Schistocerca americana Drury found in the woods.
- Wyoming C. L. Corkins (March 19): Grasshoppers are moderately abundant in northeastern Wyoming and central Wyoming. Sheridan County will likely have a serious outbreak. We predict localized damage in seven other counties besides Sheridan this summer, and severe damage in Sheridan County.
- Utah G. F. Knowlton (March 23): A few species of grasshoppers that winter over in the nymphal stage are now active in northern Utah. These nymphs are moderately abundant.
- Arizona C. D. Lebert (March 23): Grasshoppers, Melanoplus sp., are scarce in the Salt River Valley.

CUTWORMS (Noctuidae)

- Florida J. R. Watson (March 21): The cutworms are moderately abundant. We have not received so many complaints as usual for March, owing to cold weather.
- Nebraska M. H. Swenk (March 20): Cutworms are beginning to show activity and are moderately abundant.
- Kansas H. R. Bryson (March 20): Cutworms are reported as moderately abundant.
- Missouri L. Hasenan (March 23): Two species of cutworms (undetermined) are moderately abundant at Columbia.
- Mississippi R. W. Harned and assistants (March): Cutworms are reported as moderately abundant in scattered localities.
- Texas F. L. Thomas (March): Some cutworms were found in the pupal stage at College Station.
- Utah G. F. Knowlton (March 23): Cutworms have been observed but are not yet causing damage.
- Arizona C. D. Lebert (March 23): Cutworms. (species undetermined) are moderately abundant in the Salt River Valley.
- California Stewart Lockwood (March 18): Reports have come to the office that a cutworm (species unknown) has been responsible for some amount of damage to grapes in Stanislaus, Merced, Madera, Fresno, and Tulare Counties. This may be the greasy cut worm.

CEREAL AND FORAGE CROP INSECTS

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

- Virginia C. R. Willey (March 24): The Hessian fly is very scarce in the Shenandoah Valley. I have found none in several fields which I have examined.
- Ohio J. S. Houser (March 24): The Hessian fly is scarce.
- Iowa C. J. Drake (March 20): The infestation is very serious in the counties of Woodbury, Monona, and Harrison. In these counties a considerable acreage of wheat was planted before the fly-free date. The use of combines has also increased the amount of volunteer wheat, especially in wheat fields sown to sweet clover. During the warm weather in October a considerable number of flies emerged from the early seeded fields and

volunteer wheat. As a result, wheat fields drilled as late as the 4th of October in Monona County are heavily infested with the Hessian fly. The warm weather during the fall and winter has enabled a large percentage of the maggots to complete their development during the winter months. At the present time about 1 per cent of the flies are in the maggot stage and about ready to transform into puparia. Reports of infestation in early-seeded fields have been received from a number of counties in southern Iowa. In a few counties perhaps as much as 50 per cent or more of the wheat will be destroyed.

H. E. Jaques (March 23): The situation seems to be very serious in many parts of the State although a number of counties report "no wheat" and others apparently only a light infestation. Lee, Woodbury, and Harrison Counties report a heavy abandonment of wheat.

G. C. Decker (March 25): I have recently made a second survey trip to Lee and adjacent counties and find the situation there almost as bad as we found it in Monona and Western Counties. Many fields examined now show from 30 to 80 per cent of the plants infested and a count of from 25 to 200 flaxseeds per 100 plants.

Nebraska

M. H. Stenk (March 20): The Hessian fly is found in moderate abundance.

Kansas

H. R. Bryson (March 20): The Hessian fly is found in moderate abundance in the central and northwestern parts of the State.

Missouri

L. Hasenan (March 23): The Hessian fly is moderately abundant in central Missouri. Seems to have wintered well. Specimens collected March 19 had 50 per cent pupae on March 23.

CORN

CHINCH BUG (Blissus leucopterus Say)

Illinois

W. P. Flint (March 19): The chinch-bug mortality for the past winter has been very low. If present weather conditions continue, severe damage from this insect will occur throughout central Illinois.

Kansas

H. R. Bryson (March 20): Chinch bug moderately abundant in 22 counties in southeastern Kansas. Winter quarters well burned last December.

Missouri

L. Hasenan (March 23): The chinch bug has wintered well but is not yet moving.

CORN EAR WORM (Heliothis obsoleta Fab.)

- Florida J. R. Watson (March 21): There have been no complaints of corn ear worms.
- Missouri L. Hasenan (March 23): The corn ear worm wintered almost perfectly 2 to 4 inches below the surface.
- Texas F. L. Thomas (March 20): The first eggs were found in Galveston County by J. N. Roney on February 10. Two larvae were found on mustard on March 2.

ALFALFA, CLOVER, ETC.

PEA APHID (Illinoia pisi Kalt.)

- Arizona C. D. Lebert (March 23): The pea aphid is very abundant this spring on peas, alfalfa, and vetch in the Salt River Valley. In many cases the plants are so laden with aphids that they are weighted down flat upon the ground and the foliage is covered with honey dew. Many pea plants have been killed on the experimental farms near Mesa. Hymenopterous parasites, syrphids, and ladybeetles were noticed to be working on the aphids.
- Oregon Insect Pest Report, Ore. Agr. Coll. and Exp. Sta. (March): There will probably be local damage to vetch and peas this year as there is every year. The number of pea aphids in the field at the present time does not indicate a general outbreak unless exceedingly favorable weather occurs. Mr. L. P. Rockwood reports a survey of four or five Austrian winter field pea fields near Corvallis in March resulted in an average of two aphids to one hundred sweeps of the net. Very scarce. The pea aphid was just beginning to damage a vetch crop in an orchard near Kansas City community, Washington County, February 12. This vetch was seeded early in August, 1930. A fungus disease, Entomophthora aphidis Hoffman, was just beginning to work on the aphids. By February 23, there was a reduction in numbers of aphids by about 75 per cent, probably due to the fungus disease. No pea aphid found on Austrian peas near Forest Grove except a few in one poor field which had been disked back on the same land in August, 1930.

CLOVER HAY WORM (Hysopysia costalis Fab.)

- Minnesota A. G. Ruggles (March 23): The clover hay worm was present in an alfalfa stack at Austin.

COWPEA CURCULIO (Chalcodermus aeneus Boh)

Alabama J. M. Robinson (March 24): About one-third of the adults of cowpea curculio active in hibernation cage March 10.

CLOVER MITE (Bryobia praetiosa Koch)

Missouri L. Hasenan (March 23): The usual early-season dispersal of the common red spider, which on examination seems to be the common clover red spider, is attracting attention. Complaints regarding it show that it is unusually abundant crawling on the sunny sides of buildings, as well as in homes.

F R U I T I N S E C T S

APPLE

APHIDS (Aphidae)

Massachusetts A. I. Bourne (March 25): Orchard plant lice appear to be comparatively scarce quite generally over the State.

New Jersey Thos. J. Headlee (March 5): Aphid eggs are less abundant than last year but I should also say that ladybeetles are likewise less abundant and that the chances of a plant-louse outbreak, provided favorable weather conditions exist in the spring, are better than for two or three years past.

Vermont H. L. Bailey (March 25): The fruit aphids are moderately abundant. Eggs of the green apple aphid (Aphis pomi DeG.) have been noted.

Connecticut W. E. Britton (March 24): Fruit aphids are scarce. Some eggs are observed on twigs.

Pennsylvania H. N. Worthley (March 23): Aphid eggs are scarce on apple trees.

Maryland Ernest N. Cory (March 25): There is a noticeable absence of aphid eggs.

Delaware L. A. Stearns (March 23): The eggs of fruit aphids were found in moderate abundance throughout the State.

West Virginia L. M. Peairs (March 24): Fruit aphids are scarce in Jefferson County. The eggs of all species are hard to find.

Virginia C. R. Willey (March 24): Fruit aphids are scarce in the Shenandoah Valley. The eggs are hard to find and I have seen no live aphids to date.

- South Carolina Alfred Lutken (March 25): The rosy apple aphid (Anuraphis roseus Baker) is moderately abundant in the northwestern part. Young nymphs of rosy aphid were found on apple buds March 18. the
- Georgia C. H. Alden (March 20): The fruit aphids (green apple aphids) are scarce.
- Ohio J. S. Houser (March 24): Fruit aphid eggs are scarce.
- E. W. Mendenhall (March 24): Winter eggs of Aphis pomi are moderately abundant.
- Kansas H. R. Bryson (March 20): Fruit aphids are scarce.
- Missouri L. Haseman (March 23): The fruit aphids are moderately abundant. The apple-oat louse (Rhopalosiphum prunifoliae Fitch) is less abundant than usual. There are still eggs on this date.
- Arizona C. D. Lebert (March): The apple-grain aphid, was found to be fairly abundant on wheat, barley, and oats at the experimental farms near Mesa, on March 22.
- Oregon Insect Pest Report, Ore. Agr. Coll. and Exp. Sta. (March): Fruit aphids have been active since January in Umatilla County.

LEAFHOPPERS (Cicadellidae)

- Virginia C. R. Willey (March 24): Adult leafhoppers, Erythroneura harti Gill. and E. obliqua Say, are moderately abundant under the leaves. E. obliqua are the more numerous.
- Connecticut W. E. Britton (March 24): The eggs of apple leafhoppers are very abundant in twigs.
- Kansas H. R. Bryson (March 20): Apple leafhoppers are found in moderate abundance.
- Missouri L. Haseman (March 23): Apple leafhoppers are moderately abundant and are active on warm days.
- Mississippi G. I. Worthington (March 21): Apple leafhopper damage to cherry trees from last year is severe at Clarksdale.

CODLING MOTH (Carpocapsa pomonella L.)

- Maryland E. N. Cory (March 25): I believe the carry-over of the codling moth is above normal.
- Pennsylvania T. L. Guyton (March 21): The codling moth is unusually abundant in orchards in the eastern part of the State.

H. N. Worthley (March 23): The codling moth is moderately abundant. About 90 per cent of the hibernating larvae have survived to date.

South Carolina A. Lutken (March 25): Pupae were found in an orchard at Walhalla, March 30.

Georgia C. H. Alden (March 20): The codling moth has not started to pupate yet.

Kansas H. R. Bryson (March 20): The codling moth is very abundant in the south-central part of the State.

Missouri R. M. Jones (March 25): The heavy carry-over of the codling moth larvae and the mild winter should result in a heavy emergence of spring brood moths.

Utah G. F. Knowlton (March 23): Codling moth counts made up to date show an overwintering mortality of but 20 per cent, in spite of the severe winter.

Oregon D. C. Mote (March 23): The codling moth has been observed at the larval stage in Willamette Valley.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

Vermont H. L. Bailey (March 25): From observations as to egg masses in Windsor and Windham Counties the eastern tent caterpillar is moderately abundant.

Massachusetts A. I. Bourne (March 25): From all the information at hand at the present time and from what observation I have had the opportunity to make in the immediate vicinity of Amherst, this species is not very abundant, although a considerable amount may develop later in Bristol and Plymouth Counties, where the pest was quite plentiful in 1930.

Connecticut W. E. Britton (March 24): The eastern tent caterpillar is scarce, few eggs being present.

New Jersey T. J. Headlee (March 5): Eggs of the tent caterpillar, while not entirely absent, are pretty nearly so and an outbreak of this insect is hardly to be anticipated.

Arkansas W. J. Baerg. (March 14): Eggs began hatching on March 12 at Fayetteville. Egg masses are apparently numerous this year.

Texas F. L. Thomas (March 22): M. americana is, as usual, abundant this time of the year in the woods around College Station. Caterpillars are about full grown and many of the Crataegus bushes are defoliated. Did not observe any signs of parasitism.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

- Connecticut W. E. Britton (March 24): The San Jose scale is scarce.
- New York C. R. Crosby (March 26): The San Jose scale is generally more abundant than for several years.
- Pennsylvania T. L. Guyton (March 21): The San Jose scale is very abundant, especially in the southeast.
- H. N. Worthley (March 23): The San Jose scale is moderately abundant at State College. There is about 50 per cent survival to date.
- New Jersey Thos. J. Headlee (March 5): The San Jose scale can not be considered an insect difficult to control under New Jersey conditions but there is some evidence in certain old apple orchards that its vigor may be rising. I suppose this means that its parasitic enemies have become considerably reduced. There is nothing, even in these old orchards, of a threatening character as yet but the difficulty of securing satisfactory control with insecticides gives me the feeling that we must watch our step.
- Delaware L. A. Stearns (March 23): The San Jose scale is slightly more abundant than usual.
- Georgia C. H. Alden (March 24): The San Jose scale is scarce at Cornelia and moderately abundant at Thomaston.
- Illinois W. P. Flint (March 19): An unusual percentage of the insect survived the winter in Central Illinois. In normal years from 25 to 30 per cent survival occurs. Counts made by Mr. Bigger, Mr. Farrar, Mr. Chandler, and others indicate that from 60 to 70 per cent of the scale have survived the winter 1930-31.
- Indiana J. J. Davis (March 28): The San Jose scale is abundant on apple and peach at Losantville.
- Kansas H. R. Bryson (March 20): The San Jose scale is reported as being moderately abundant.
- Missouri L. Haseman (March 23): The San Jose scale is scarce. Over the State as a whole it is in satisfactory shape as regards control.
- Mississippi R. W. Harned and assistants (March): The San Jose scale appears to be unusually abundant in most sections of the State.

Utah G. F. Knowlton (March 23): Dr. F. E. Stephens reports San Jose scale damage as being very severe west of Provo and at American Fork, and that several orchards are being pulled out because of the severe damage from this insect.

Idaho Claude Wakeland (March 23): The San Jose scale is moderately abundant at Lewiston; 8,209 scales were examined preparatory to spray experiments, and 62.5 per cent found to be alive.

Oregon Insect Pest Report, Ore. Agr. Coll. and Exp. Sta. (March): The San Jose Scale is moderately abundant in Malheur, Umatilla, and Jackson Counties, while in Josephine County it is reported as being more abundant than it has been for the past ten years.

FRUIT TREE LEAF ROLLER (Archips argyrospila Walk.)

Idaho Claude Wakeland (March 23): The winter mortality was extremely light.

Wyoming C. L. Corkins (March): The fruit tree leaf roller is scarce.

APPLE CURCULIO (Tachypterellus quadrigibbus Say)

Kansas H. R. Bryson (March 20): The apple curculio is moderately abundant in Doniphan and Atchison Counties.

ROUND-HEADED APPLE TREE BORER (Saperda candida Fab.)

Ohio J. S. Houser (March 24): The round-headed apple tree borer is unusually abundant, judging from reports received by the department.

EUROPEAN RED MITE (Paratetranychus pilosus C. & F.)

Vermont Harold L. Bailey (March 25): Reports have been received of considerable abundance of eggs at Waitsfield, Washington County.

Massachusetts A. I. Bourne (March 25): The condition throughout the State, while somewhat spotty may be said to indicate that the red mite will be considerably more abundant than it was last year.

New Jersey Thos. J. Headlee (March 5): Red Mite eggs are less abundant than last year but I should also say that ladybeetles are likewise less abundant and that the chances of a plant louse outbreak, providing favorable weather conditions exist in the spring, are better than for two or three years past. There are decidedly more red mite eggs on peach trees than I have seen in the past several years, which may or may not

mean an outbreak on peach.

- Maryland E. N. Cory (March 25): There is a noticeable absence of red mite eggs.
- North Carolina R. W. Leiby (February 23): Apple twigs sent to the office at Raleigh from Blowing Rock February 23, were found to be heavily infested with eggs.

PEACH

PEACH BORER (*Aegeria exitiosa* Say)

- Georgia C. H. Alden (March 20): The peach borer is scarce at Cornelia.
- O. I. Snapp (March 20): As usual this insect is causing considerable damage in peach orchards in Fort Valley that were not wormed or treated.
- Missouri L. Haseman (March 23): The peach borer, (mostly small larvae) is moderately abundant. Some complaints are being received.
- Mississippi R. W. Harned and assistants (March): The peach borer is reported as moderately abundant in the southeastern and northwestern sections of the State.

ORIENTAL FRUIT MOTH (*Laspeyresia molesta* Busck)

- Connecticut W. E. Britton (March 24): The oriental fruit moth is moderately abundant.
- Maryland E. N. Cory (March 25): The carry-over of the oriental fruit moth is above normal.
- Delaware L. A. Stearns (March 23): The oriental fruit moth shows no pupation as yet.
- Pennsylvania T. L. Guyton (March 21): The oriental fruit moth is moderately abundant.
- South Carolina Alfred Lutken (March 25): Adult oriental fruit moths were emerging in cages on March 9 in the northwestern part of the State.
- Georgia W. H. Clarke (March 27): Approximately 7 per cent of the overwintering larvae have pupated in the insectary at The Peach Experiment Station, Thomaston. No moths have emerged to date.

C. H. Alden (March 20): The oriental fruit moth is moderately abundant at Cornelia; and there has been no pupation. It is scarce at Thomaston and few have pupated.

Ohio E. W. Mendenhall (March 24): The oriental fruit moth is moderately abundant in young peach stock.

Mississippi N. L. Douglass (March 21): The oriental fruit moth is moderately abundant in northern Mississippi.

PLUM CURCULIO (Conotrachelus nemuphar Hbst.)

Delaware L. A. Stearns (March 23): None of the plum curculios have emerged from hibernation as yet.

Georgia O. I. Snapp (March 20): No adults have appeared from hibernation to date in Fort Valley. Jarring for the first adults has been conducted daily since March 12. The appearance of adults from hibernation is much later this year than usual when compared with the present stage of development of the fruit. This is due to the cool weather that has prevailed since the trees started to bloom about the first of March. These insects come out of hibernation when the mean temperature has been above 60° F. for several successive days. Only one day since March 1 has the mean temperature reached 60° F. Petals are now falling from Hiley and Elberta peach trees. The late appearance of the curculio from hibernation this year, may prevent the development of a second brood of larvae before Elberta harvest.

C. H. Alden (March 20): The plum curculio is scarce at Cornelia and Thomaston; no beetles have emerged yet.

W. H. Clarke (March 25): The first overwintering adult was collected in the orchard today, at Thomaston. Only a single specimen was caught. Last year the date of the first curculio caught by jarring was March 17. Approximately 1,000 adults were collected by jarring in the same orchard on the same date last year, March 25, 1930.

Florida J. R. Watson (March 21): The plum curculio is late in emergence. A very few have been observed at Gainesville.

Kansas H. R. Bryson (March 20): The plum curculio is reported as moderately abundant.

FULLER'S ROSE BEETLE (Pantomorus fulleri Horn).

Georgia

O. I. Snapp (March 19): These beetles are appearing in numbers on peach trees at Americus.

TERRAPIN SCALE (Eulecanium nigrofasciatum Perg.)

Virginia

C. R. Willey (March 24): A severe infestation of the terrapin scale was discovered by an orchardist in a block of peach trees at Woodstock.

PEAR

PEAR PSYLLA (Psyllia pyricola Foerst.)

Massachusetts

A. I. Bourne (March 25): On March 22, a rather unseasonably warm day, we rode at Amherst in a pear block, which was in a very favored location, several specimens of the pear psylla appearing on the twigs. As yet there is no indication of egg laying.

PLUM

RUSTY PLUM APHID (Hysteroneura setariae Thos.)

Mississippi

R. W. Harned and assistants (March): The rusty plum aphid is moderately abundant at Wiggins and McComb and very abundant at Centerville and Natchez.

Texas

F. L. Thomas (March 25): The rusty plum aphid is earlier than usual and abundant at Somerville, Burlington County.

A PYRALID (Mineola scitulella Hlst.)

Idaho

Claude Wakeland (March 23): Mineola scitulella Hlst. is just coming out of hibernacula on prune trees in the Boise Valley area.

PECAN

PECAN NUT CASE BEARER (Acrobasis caryae Grote)

Alabama

J. M. Robinson (March 24): The pecan nut case bearer is present at Prattville, and growers have requested control measures.

PECAN CASE BEARER (Acrobasis juglandis LeB.)

Mississippi Henry Dietrich (March 21): Pecan leaf case bearers are present sparingly in hibernacula on pecan in orchards in George County.

HICKORY SHUCK WORM (Laspeyresia caryana Fitch)

Mississippi Henry Dietrich (March 21): Pecan shuck worms are mostly in the pupal stage at Lucedale; not abundant.

PECAN COSSID (Cossula magnifica Streck.)

Mississippi Wm. L. Gray (March 21): The hickory cossid is moderately abundant on pecan at Natchez.

TWIG GIRDLER (Oncideres cingulatus Say)

Mississippi R. P. Colmer (March 21): The twig girdler is scarce on pecan in eastern Jackson County.

CITRUS

GREEN CITRUS APHID (Aphis spiraecola Patch)

Florida J. R. Watson (March 21): The green citrus aphid is doing serious damage only on the lower east coast -- Broward County, especially at Davis. A few trees as far north as Polk County (Lake Alfred) are heavily infested and a few aphids are seen as far north as northern Marion County (Citra). But it now seems certain that (except perhaps on tangerines) the damage will be light this year.

COWPEA APHID (Aphis medicaginis Koch)

Arizona C. D. Lebert (March 23): A. medicaginis Koch is moderately abundant on citrus in the Salt River Valley and around Phoenix.

RASPBERRY AND BLACKBERRY

A TREE CRICKET (Oecanthus sp.)

Indiana J. J. Davis (March 28): Egg punctures of a tree cricket are abundant in raspberry canes at Van Buren.

North Dakota J. A. Munro (March 20): A considerable amount of tree cricket (probably the striped tree cricket) injury to raspberry canes and shrubs has been reported of late from Hankinson. Twigs sent in for inspection were badly punctured and contained large numbers of eggs.

RASPBERRY BUD MITE (Eriophyes gracilis Nal.)

Washington

Wm. W. Baker (March): Mites were found on every thimbleberry bush, Rubus parviflorus Nutt. and examined from several localities in Pierce and King Counties; some of these were miles from any known cultivated berries. In the case of the thimbleberry the mites were practically all located on the inside of the buds and at the junction of healthy and injured tissue, making it appear very much as though the mites were responsible for the injury. Not a single field examined from several places around Sumner, Puyallup, Orting, Tacoma and Bellevue were free from the mite. In some cases there was a little evidence of injury but this was rare.

GRAPE

AN ERIOPHYID MITE (Eriophyes vitis Landois)

Washington

Wm. W. Baker (March 26): Grapes in two different vineyards at Bellevue have eriophyids, probably Eriophyes vitis Landois, as they cause the same wooly appearance of the underside of the leaves as is mentioned for this species.

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Indiana

J. J. Davis (March 28): Cottony maple scale reported abundant at Hartford City and Noblesville. At the latter place grapes were reported heavily infested.

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

New Jersey

Thos. J. Headlee (March 5): The oyster-shell scale is not, I think, so vigorous as it has been in years past.

Ohio

E. W. Mendenhall (March 24): The oyster-shell scale is moderately abundant.

J. S. Houser (March 24): The oyster-shell scale is moderately abundant.

Indiana

J. J. Davis (March 28): Oyster-shell scale (L. ulmi L.) abundant on apple at Wolcottsville.

Kansas

H. R. Bryson (March 20): The oyster-shell scale is reported as being scarce.

Missouri

L. Haseman (March 23): The oyster-shell scale is scarce in Missouri.

Nebraska M. H. Swenk (March 20): The lilac form of the oyster-shell scale is very abundant in some parts of northeastern Nebraska.

Colorado C. P. Gillette (March 6): I am not sure that I noted in any of my reports last year that the oyster-shell scale, which was becoming so abundant on our ash, willow, and cottonwood trees, in northern Colorado, and on the purple lilac, was almost exterminated during the winter of 1929-30 by the severe cold weather -- the temperature here at Fort Collins going as low as 38.5 degrees below zero. We were only able to find occasional live specimens of the scale in this vicinity last summer.

PURPLE SCALE (Leucidosaphes beekii Newm.)

Florida J. R. Watson (March 21): The purple scale is moderately abundant. Crawlers are beginning to emerge in Polk County and south.

COTTONY CUSHION SCALE (Icerya purchasi Mask.)

Arizona C. D. Lebert (March 23): The cottony cushion scale is again appearing in small, scattered infestations in the ^{Salt River} valley. In most cases the infestations are slight, especially in the citrus, although one rather serious infestation was found on grapefruit in Tempe. This infestation was attributed to a nearby infestation on Pittosporum tobira which had been reported too late to control by means of establishing the predacious ladybeetle, Vedalia cardinalis. In every case where the beetles were established last year a nearly complete control was secured.

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Mississippi R. W. Harned and assistants (March): Reports from the southeastern part of the State indicate that the citrus whitefly is moderately abundant.

Florida J. R. Watson (March 21): The citrus whitefly is moderately abundant and is passing into the pupal stage.

ORANGE THRIPS (Scirtothrips citri Moulton)

Arizona C. D. Lebert (March 23): The citrus thrips reported quite numerous at Yuma.

FLOWER THRIPS (Frankliniella tritici Fitch)

Arizona C. D. Lebert (March 23): The wheat or flower thrips are quite abundant on citrus and flowers in the Salt River Valley.

T R U C K - C R O P I N S E C T S

VEGETABLE WEEVIL (Listroderes obliquus Gyll.)

Florida M. M. High (March 24): We have recently found the vegetable weevil in the following new counties in Florida: Jackson, Okaloosa, Gadsden, and Santa Rosa.

Mississippi R. W. Harned (March): Larvae of the vegetable weevil have caused much damage and attracted much attention in cabbage and turnip fields in the southern half of the State. Specimens have recently been received from the vicinities of McCarley, Foxworth, Woodville, Phoenix, Laurel, and Neshoba.

Alabama J. M. Robinson (March 24): Larvae of the vegetable weevil emerged from material sent in from Andalusia.

Texas M. M. High (March 24): We have recently found the vegetable weevil in the following counties: Orange, Jefferson, Hardin, and Chambers.

WESTERN-SPOTTED CUCUMBER BEETLE (Diabrotica seror L.)

Oregon Insect Pest Rept. Ore. Agr. Coll. & Exp. Station (February 2): Mr. T. R. Chamberlin reports that they began leaving caches near Forest Grove by January 25, practically one month earlier than in 1930. Beetles have not been found plentifully in the fields, however, since the last of January and early February. In spite of early issuances, egg development seems later than at this time last year, (March 23): Mr. Thompson reports 5 or 6 specimens to the square foot taken in Austrian winter pea field at Corvallis. The insects were feeding but as yet no apparent economic damage appeared. Mr. Thompson reports all specimens were females and heavy with eggs.

HOP FLEA BEETLE (Psylliodes punctulata Melsh.)

Utah G. F. Knowlton (March 11): The hop flea beetle is active at the present time in northern Utah, feeding on weeds during the warm part of the day.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

Florida J. R. Watson (March 21): The seed corn maggot was destroying cucumber plants at Bushnell, February 18.

Texas F. L. Thomas (March 16): The seed corn maggot was found in moderate abundance in corn at Romney, Eastland County, where considerable damage was being done. The corn seed had been in the soil about 10 days.

APHIDS (Aphididae)

Virginia

G. E. Gould (March 24): The spinach aphid, Myzus persicae Sulz., is abundant upon all spinach in the Norfolk area. The number present at this time is much greater than this time last year.

South Carolina

A. Lutken (March 7): A heavy infestation of aphids on broccoli, mustard, and turnips in Beaufort County (March 5, 1931).

Mississippi

R. W. Harned and assistants (March): Many complaints have been received from all sections of the State during the past few weeks in regard to aphid infestations of various kinds of plants. In only a few cases have these complaints been accompanied by specimens. However, specimens have been received and identified as follows by Mr. A. L. Tanner:

Aphis pomi on spiraea from Biloxi, March 6.

Rhopalosiphum pseudobrassicae on cabbage from Lucedale, February 23.

G. L. Bond (March 21): Plant lice observed on spinach, injury slight, from Smith, Jasper, Covington, Jones and Wayne Counties.

Utah

G. F. Knowlton (March 26): Myzus persicae Sulz. has been a nuisance on sprouting potatoes used for experimental purposes at Logan on several occasions during the past two seasons.

TARNISHED PLANT BUG (Lygus pratensis L.)

Utah

G. F. Knowlton (March 11): Tarnished plant bugs are active at the present time, on warm days, in Boxelder and Cache Counties.

CRANCA (Scapteriscus vicinus Scudd.)

Florida

J. R. Watson (March 21): The West Indian mole cricket is doing much damage to golf greens at Belleair and other places.

NORTHERN MOLE CRICKET (Gryllotalpa hexadactyla Perty)

Mississippi

E. Dietrich (March 21): The mole cricket is again becoming abundant in gardens at Lucedale.

SLUGS (Mollusca)

South Carolina

A. Lutken (March 7): Slugs are damaging tobacco seedlings in Georgetown County.

PILLBUGS (Oniscidae)

Mississippi R. W. Harned and assistants (March): A correspondent at Laurel sent to this office on March 9 some pillbugs with the following comment: "They simply eat everything we plant and curl themselves around rose stems and suck the life out of them."

R. P. Colner (March 21): Pillbugs have been moderately abundant in gardens in the vicinity of Pascagoula. Especially bad on young flower plants.

POTATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Mississippi K. L. Cockerham (March 21): The first Colorado potato beetle of the 1931 season was found on Irish potato on March 21 and the second on March 22, at Biloxi.

Texas F. L. Thomas (March 21): The first specimen of the Colorado potato beetle was observed this season at College Station today.

Wyoming C. L. Corkins (March 19): The Colorado potato beetle is scarce.

CABBAGE

IMPORTED CABBAGE WORM (Pieris rapae L.)

Missouri L. Haseman (March 23): An occasional butterfly has been seen on the wing at Columbia on warm days.

Mississippi K. L. Cockerham (March 22): The first imported cabbage worm was seen on March 22, attacking cabbage at Biloxi.

H. Dietrich (March 21): Adults were seen flying over cabbage fields at Lucedale and Richton on warm days during March.

Kansas H. R. Bryson (March 20): The imported cabbage worm is reported as moderately abundant.

DIAMOND-BACK MOTH (Plutella maculipennis Curt.)

Mississippi H. Dietrich (March 21): The diamond-back moth is very abundant on cabbage at Lucedale but very few moths are emerging, owing to parasitism.

CABBAGE APHID (Brevicoryne brassicae L.)

Virginia G. E. Gould (March 24): The cabbage aphid survived the winter in large numbers upon many crucifers and especially kale. Growers near Norfolk will have to harvest their crop soon in order to escape damage.

South Carolina P. K. Harrison (March 12): Cabbage aphids were collected on cabbage and collards, February 5, in two home gardens at Fairfax. All plants were infested and some were severely damaged.

HARLEQUIN BUG (Murgantia histrionica Hahn)

Florida J. R. Watson (March 21): There have been no complaints yet of the harlequin bug.

Alabama J. M. Robinson (March 24): The harlequin bug has not been found yet.

Texas F. L. Thomas (March 20): J. N. Roney, entomologist of the plant lice laboratory, reports that the harlequin cabbage bug has been seen quite frequently on collards and greens since the 15th of February at Dickinson, Galveston County.

MELONS

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Correction:-

The note on Diabrotica vittata Fab. by F. L. Thomas in Texas appearing in the Insect Pest Survey Bulletin, March 1, 1931, P - 24, referred to D. duodecimpunctata.

Georgia O. I. Snapp (March 13): The first adults to appear from hibernation at Fort Valley were observed on peach trees today. The cool weather is keeping them in hibernation later than usual.

Florida J. R. Watson (March 21): The spotted cucumber beetle is moderately abundant at Gainesville.

Georgia J. B. Gill (March 27): The spotted cucumber beetle has been observed to occur on peach and plum blossoms at Albany.

Alabama J. M. Robinson (March 24): The spotted cucumber beetle is moderately abundant on legumes and garden vegetables at Auburn.

Mississippi R. W. Harned and assistants (March): The spotted cucumber beetle has been reported in moderate abundance from the southeastern part of the State.

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Kansas H. R. Bryson (March 20): The spotted cucumber beetle has not been taken this year at Manhattan at the present writing.

New Mexico J. R. Eyer (March 6): The earliest recorded appearance of the spotted cucumber beetle for the year is March 2. Since this insect is more or less active all winter long, however, it is possible that adults were in the fields on warm days previous to this date.

Arizona C. D. Lebert (March 23): One adult was taken in sweeping in wheat field, Mesa, on March 22.

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Florida J. R. Watson (March 21): The striped cucumber beetle is very abundant in the Everglades only.

Indiana J. J. Davis (March 3): Mr. Riley observed striped cucumber beetles active in outdoor hibernation cages, February 23.

Missouri L. Haseman (March 23): The striped cucumber beetle is not yet moving.

Mississippi R. W. Harned and assistants (March): The striped cucumber beetle is very abundant.

STRAWBERRY

STRAWBERRY PAMERA (Orthaea vineta Say)

Florida J. R. Watson (March 21): The strawberry pamera was sent in from Lakeland in early March, at which time it was doing considerable damage. This is early for this insect.

STRAWBERRY ROOT WEEVILS (Brachyrhinus spp.)

Oregon Insect Pest Report, Ore. Agr. Coll. and Exp. Sta. (March): Strawberry root weevils are moderately abundant in Columbia and Multnomah Counties.

STRAWBERRY CROWN BORER (Tyloderma fragariae Riley)

Oregon Insect Pest Report, Ore. Agr. Coll. and Exp. Sta. (March): The strawberry crown moth is very abundant in Benton and Columbia Counties.

A CASE-BEARER (Coleophora sp.)

Washington Wm. W. Baker (March 13 and 26): Cases of Coleophora sp. were found on strawberries at Bellevue and Puyallup; apparently these were nearly full grown though no cases were found later.

TURNIPS

TURNIP APHID (Rhopalosiphum pseudobrassicae Davis)

Mississippi

G. I. Worthington (March 21): Aphids are general on turnips in Coahoma, Bolivar, Sunflower, and Washington Counties.

E. Dietrich (March 21): Aphids, R. pseudobrassicae, are very abundant on cabbage at Lucedale, George County.

ONIONS

ONION THRIPS (Thrips tabaci L.)

Florida

J. R. Watson (March 21): The onion thrips are much in evidence about Gainesville.

ONION MAGGOT (Hylemyia antiqua Meig.)

Alabama

J. M. Robinson (March 24): General complaint has been made of the onion maggot around Montgomery.

CARROTS

CARROT RUST FLY (Psila rosae Fab.)

Ohio

J. S. Houser (March 24): Carrots in storage, sent from Canton, show severe damage by the carrot rust fly. The grower reports that this is the second year in which he has noted injury.

EGGPLANT

EGGPLANT LEAF MINER (Phthorimaea glochinella Zell.)

Georgia

T. O'Neill (February 2): The eggplant leaf miner, P. glochinella, has been noted in Solanum at Atlanta.

BEEETS

BEEET LEAFHOPPER (Eutettix tenellus Baker)

Wyoming

C. L. Corkins (March 19): The beet leafhopper is scarce.

Idaho

C. Wakeland (February 24): Climatic conditions have been very favorable for survival. At this date overwintering adults are abundant in breeding areas and active during periods

of favorable temperatures. (March 23): The beet leafhopper is very abundant. Winter mortality is very light. Conditions at this time are unfavorable to production of beets profitably in the Lewis Falls area.

Utah

G. F. Knowlton (March 23): A few overwintering adults have been collected in the Tooele and Boxelder County breeding grounds.

FOREST AND SHADE-TREE INSECTS

GYPSY MOTH (Porthetria dispar L.)

Vermont

H. L. Bailey (March 25): Egg masses of the gypsy moth have been found in moderate abundance by scouts of the Vermont Department of Agriculture in Springfield, Rockingham, and towns south to the Massachusetts line. Observations in other sections point to scarcity or complete absence.

BROWN-TAIL MOTH (Nygmia phaeorrhoea Don.)

Vermont

H. L. Bailey (March 25): Inspections in sections of the State most liable to reinfestation fail to reveal the presence of any winter webs. The insect has not been found in the State for several consecutive years, though reinfestation has been expected owing to spread in eastern New England.

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

Pennsylvania

T. L. Guyton (March 13): Rhyacionia buoliana Schiff. was collected in 1930 by G. B. Slesman and H. J. Fisher, nursery inspectors of the Bureau of Plant Industry, at the Pennsylvania Railroad Nurseries, Morrisville, and on Cheltenham Road, Chestnut Hill. Mr. Slesman notes that the Pennsylvania Railroad Nurseries have a heavy infestation occurring among Scotch pine, but that the infestation at Chestnut Hill is of minor importance.

TENT CATERPILLAR (Malacosoma californica Pack.)

Arizona

C. D. Lebert (March 23): The California tent caterpillar is extremely prevalent this spring. Defoliation of cottonwoods around Phoenix is severe. Severe injury to apricot foliage is reported in one instance.

BIRCH LEAF-MINING SAWFLY (Phyllotoma nemorata Fallen)

New York

R. D. Glasgow (February 28): I think you will be interested to know that we found the European birch leaf-mining sawfly, Phyllotoma nemorata Fallen, to be abundant in Essex County last fall. Apparently this insect is now well established in the northeastern part of this State.

FLAT-HEADED APPLE TREE BORER (Chrysobothris femorata Oliv.)

Indiana

J. J. Davis (March 28): This flat-headed borer was reported February 22 as occurring on Norway maple at Frankfort.

ELM

ELM LEAF BEETLE (Galerucella xanthomelaena ~~Stark~~ ^{Frank})

Oregon

Insect Pest Rept. Ore. Agr. Coll. and Exp. Sta. (March):
The elm leaf beetle is very abundant near Lexington, Morrow County.

FIR

DOUGLAS-FIR CATERPILLAR (Burschusia argentata Packard)

Oregon

D. C. Mote (March 23): Douglas-fir webworm, Halisidota argentata Packard - A colony of Douglas-fir webworms was received from the State Board of Horticulture, Portland, March 21. Larvae were feeding on the fir needles and were about 1/2 inch long.

MAPLE

MAPLE BORER (Synanthedon acerni Clem.)

Ohio

E. W. Mendenhall (March 23): The soft and hard maple trees on the campus of Wilberforce University are affected with the maple borer.

OAK

A LEAF MINER (Cameraria conglomeratella Zell.)

Mississippi

R. W. Harned (March): Oak leaves containing mines probably made by Cameraria conglomeratella were received from Laurel on March 11 and March 14. A rather serious infestation of this leaf miner existed at Laurel during the past summer and fall.

A GYNIPIED GALL (Callirhytis aquaticae Ashm.)

Mississippi

R. W. Harned (March): Water oak twigs containing galls probably caused by Callirhytis aquaticae were received from Meridian, on February 21.

PINE

PINE LEAF SCALE (Chionaspis pinifoliae Fitch)

Indiana

J. J. Davis (March 28): Pine leaf scale (Chionaspis pinifoliae) was reported very abundant on Colorado blue spruce at Madison, February 18.

INSECTS AFFECTING GREENHOUSE AND
ORNAMENTAL PLANTS AND LAWNS

SCALE INSECTS (Coccidae)

Mississippi

R. W. Harned and assistants (March): Aspidiotus cyanophylli Sign. was found on palm, Coccus hesperidum L. on oleander, Finaspis aspidistrae Sign. on fern, and Phenacoccus gossypii Towns. & Ckll. on Hibiscus, on a property in Corinth on March 4.

COTTONY CUSHION SCALE (Icerya purchasi Mask.)

Mississippi

R. W. Harned and assistants (March): An infestation was found on tung oil plants at Gulfport, on March 5. This insect is doing considerable injury to Pittosporum in Hattiesburg.

GREENHOUSE WHITEFLY (Trialeurodes vaporariorum Westw.)

Indiana

J. J. Davis (March 28): This whitefly was reported destructive to Lantana at Indianapolis, February 5.

AN APHID (Myzus sp.)

Mississippi

J. P. Kislanko (March): The upper leaves and the flowers of Bougainvillea sp. are heavily infested with aphids, Myzus sp., in a greenhouse in Hattiesburg.

A COREID BUG (Jadera haematoloma H. S.)

Florida

H. T. Fernald (March 19): Nymphs and adults are sucking the juices from the blossoms of a very common species of Bidens which grows everywhere around Orlando. Captured February 7, (This species has been recorded as a cotton pest. J. A. H.)

A SWALLOWTAIL (Papilio ajax-marcellus Cram.)

South Carolina

A. Lutken (March 25): Specimen of the zebra swallowtail were taken at Clemson College, March 19.

GREENHOUSE CENTIPEDE (Scutigera immaculata Newp.)

Indiana

J. J. Davis (March 28): The greenhouse centipede was reported as badly infesting a greenhouse at Shelbyville January 19. The crop is not reported but supposedly it was the lettuce crop.

ARBORVITAE

AN APHID (Dilachnus thujafolia Theob.)

Mississippi

R. W. Harned and assistants (March): This insect has been found unusually abundant on arborvitae in many parts of the State.

CEDAR

DEODAR WEEVIL (Pissodes deodarae Hopk.)

Mississippi

R. W. Harned (March): Injured twigs of Cedrus deodara were received from Ackerman on February 23.

CHRYSANTHEMUM

CHRYSANTHEMUM GALL MIDGE (Diarthronomyia hypogaea Loew)

Mississippi

J. Milton (March 24): A heavy infestation of the gall midge was found on chrysanthemums at Corinth in February. The plants were destroyed.

CHRYSANTHEMUM APHID (Macrosiphoniella sanborni Gill.)

Mississippi

O. M. Chance (March 21): A few chrysanthemum aphids have been noted in Hinds and Rankin Counties.

EUONYMUS

EUONYMUS SCALE (Chionaspis euonymi Comst.)

Virginia

G. E. Gould (March 24): The euonymus scale is very abundant around Norfolk. Practically all euonymus bushes that are two or three feet tall are infested and are severely injured every year.

NARCISSUS

NARCISSUS BULB FLY (Merodon equestris Fab.)

New York

R. D. Glasgow (February 28): The narcissus fly, generally, has been of minor importance in New York, during the past year, but there is one small commercial planting in the lower Hudson River Valley that is heavily infested by bulb flies of the genus Merodon.

LESSER BULB FLIES (Eumerus spp.)

New York

R. D. Glasgow (February 28): In our studies of bulb pests, the lesser bulb flies were not very seriously troublesome last year, and probably will not be especially important this spring unless it may be in private plantings.

ROSE

ROSE APHID (Macrosiphum rosae L.)

Mississippi

R. W. Harned and assistants (March): Rose aphids are very abundant at Natchez and moderately abundant on roses and bridal wreath in Jackson County.

INSECTS ATTACKING MAN AND
DOMESTIC ANIMALS

MAN

BEDBUG (Cimex lectularius L.)

West Virginia

L. M. Peairs (March 24): An unusual outbreak of bedbugs from an undetermined source, has occurred in the rat and rabbit breeding cages in the Department of Zoology at Morgantown. The insects were apparently feeding and thriving on these animal hosts.

BOXELDER BUG (Leptocoris trivittatus Say)

Iowa

C. J. Drake (March 25): The boxelder bug is very common throughout the State this spring and causing considerable annoyance in homes. Specimens have been received from Des Moines, Cedar Rapids, Waterloo, Ames, Orient, Dubuque, Clarinda, Ft. Dodge, Manning and Battle Creek.

H. E. Jaques (March 23): Boxelder bugs are very abundant, and the most annoying in years, at Lyon, Harrison, and Pocahontas Counties.

Missouri

L. Haseman (March 22): Boxelder bugs are observed on warm days. This insect is attracting more than usual attention.

Colorado

C. P. Gillette (March 6): The weather was warm enough during the latter part of February to attract this insect from its hibernating quarters and permit it to collect on the walls of buildings in northern Colorado. A few letters have been received making inquiry as to what can be done to control the pest.

Utah

G. K. Knowlton (March 23): The boxelder bug has only become annoying in northern Utah during the past two or three weeks. Previous to this time the continued cold weather prevented their becoming much of a household nuisance.

A MITE (Bryobia sp.)

Colorado

C. P. Gillette (March 6): Complaints are beginning to come from housewives because of the presence of the mite (Bryobia sp.) on the windows and walls of homes. Such complaints are quite common nearly every year beginning about the first of March and continuing until the mites have all escaped from the houses.

CATTLE

OX WARBLER (Hypoderma spp.)

Iowa

H. E. Jaques (March 23): Several counties report more ox warblers than usual. A. J. Secor of Van Buren County writes, "We have conducted an ox warble campaign, and had excellent results. We have record of unusual gain in club calves by removal of warbles."

Bryson

Kansas

H. R. Bryson (March 21): Dr. E. G. Kelly reports the heel flies out laying eggs March 12 in Greeley County. Similar observations were made March 15 in Ottawa County, March 16 in Rawlins County, and March 18 in Finney County. These are unusually early dates for these flies to be active in Kansas.

HOUSEHOLD AND STORED-PRODUCTS
INSECTS

TERMITES (Reticulitermes spp.)

- West Virginia L. M. Peairs (March 24): Several flights of adults have been reported during the past week at Morgantown.
- So. Carolina A. Lutken (March 7): Reproductive forms of subterranean termites have been emerging in heated buildings since February 25 in Columbia and vicinity.
- Indiana J. J. Davis (March 28): Many reports have been received of termite infestations. Reports come from Anderson, Richmond, Indianapolis, Petersburg, Plymouth, Perus, South Bend, Shelbyville, and Lafayette. During the past week several lots of winged forms have been received with the information that they are emerging. This is a very early date for migration.
- Illinois W. P. Flint (March 19): Termite infestations are perhaps no more numerous than usual, but more complaints of this insect have been received.
- Kansas H. R. Bryson (March 20): Termites are moderately abundant over the entire State. The first record at Manhattan of termites swarming was made by Dr. R. L. Parker on February 27.
- Missouri L. Haseman (March 23): We are getting an unusually large number of early complaints regarding termites, particularly in the floors and other timbers of dwellings.
- Mississippi R. W. Harned and assistants (March): Termites are causing some trouble in wooden buildings, destroying foundation timbers. The winged forms have been flying for a week.
- Alabama J. M. Robinson (March 24): Termites were swarming at Talladega, March 6. They were also observed at Montgomery.

ANTS (Fermicidae)

- Georgia M. R. Smith (March): Specimens of Solenopsis littoralis Creighton, collected by M. S. Yeomans from a greenhouse at Fort Valley, were submitted to me for identification by Mr. Tom O'Neill of the Georgia State Board of Entomology. The species heretofore has been known only from localities along the Gulf coast of Mississippi and Alabama. That the ants are highly granivorous is indicated by a number of observations previously made on them.

Mississippi

M. R. Smith (March): D. W. Grimes found a new infestation of Iridomyrmex humilis Mayr. near Hoffman, Holmes County, on March 20. W. L. Gray found workers of Camponotus caryae subsp. discolor Emery feeding on sugar in a house at Natchez. This is the first time that the species has ever been recorded as a house pest for this State. Solenopsis xyloni McCook appeared above the surface of the soil during warm days in February.

N. D. Peets (March 21): Argentine ants are causing annoyance in places infested and which were not poisoned during the past year.

SILVERFISH (Lepisma saccharina L.)

West Virginia

L. M. Peairs (March 24): Fish moths, L. saccharina, numerous in the breeding room of the Zoology Department at the West Virginia University, Morgantown. This is a basement room with an opening into the steam tunnel, and this seems to furnish warm conditions which attract and maintain, with the animal food, bran, and other starchy mixtures, conditions favorable for great numbers of the fish moths.

YELLOW MEAL WORM (Tenebrio molitor L.)

Wyoming

J. M. Robinson (March 24): The yellow meal worm was associated with a shipment of potatoes from Wyoming, found at Salitpa, Alabama.

EUROPEAN EARWIG (Forficula auricularia L.)

Oregon

D. C. Mote (March 23): Mr. Dimick reports the males have left hibernating quarters and are above ground. They have been observed for several weeks.

(A note which arrived too late to be placed in its correct order)

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana

T. E. Holloway (March 30): Pupae of the sugarcane borer have been found several times during the winter by E. K. Bynum, stationed at Houma. The borer hibernates in the larval stage, but the extremely mild weather of the winter apparently forced pupation. No adults emerged from these winter pupae up to March 28, when two emerged from pupae collected on March 12. This is about a month ahead of the usual season.

Notes abstracted from "News Letter, Plant Quarantine and Control Administration, "January, February, and March, 1931.

(Not for publication)

ORANGE MAGGOT (Anastrepha ludens Loew)

On November 4, one adult was caught in a trap in Matamoros, Mexico, just across the river from Brownsville, Tex. About 100 traps, baited with orange extract, are kept in the citrus trees growing in the patios in Matamoros. Inspection of the imported fruit in the public markets resulted in the finding of 48 larvae.

December, 1930, was the first complete month in which no adult flies have been collected since the infestation at Matamoros was found in September, 1929.

During February 32 larvae were taken from oranges offered for sale in the market at Matamoros. These oranges originated at Montemorelos, Nuevo Leon, which is located about 100 miles below the border. Fruit imported to the market at Matamoros from the southern part of the Republic of Mexico showed a heavier infestation in February than at any time since September, 1930. A total of 241 larvae were taken from fruits which were discarded by the merchants. Many of the infested fruits are sold before evidence of injury becomes apparent.

This insect was found near Monterey, Nuevo Leon, Mexico, in pistachio nuts (Pistacia vera). This represents our first record of the infestation of pistachio nuts.

PARLATORIA DATE SCALE (Parlatoria blanchardi Targ.)

Considerable intensive inspection was carried on in all areas and seven infested palms were found--five in the southern part of the Imperial Valley, two in the Coachella Valley, and none in Arizona. A survey of the northern part of the Imperial Valley was completed during March and no scale found. No scale has ever been reported from this area.

During the past calendar year fewer infested palms were reported in the Coachella Valley than during any year since the work was inaugurated in 1914.

During the past four months 3,109 fan palms were inspected in areas in the Coachella Valley where date palms heavily infested have been found in the past five years. Forty-five palms were found lightly infested, and these all within 300 feet of a rather heavily infested date palm.

A new infestation of 20 palms in the Imperial Valley was found during January. This planting consisted of 29 seedling palms about 16 feet high. One leaf on one of the palms was very badly infested. The infestations on the other 19 palms were light.

PINK BOLL WORM (Pectinophora gossypiella Saund.)

Infestations have been found in the crop of 1930 in the following counties: Graham, Pinal, Maricopa, and Pima, in Arizona; Chaves, Eddy, Otero, Dona Ana, and Luna, in Mexico; Presidio, Brewster, Reeves, Ward, Hudspeth, El Paso, Andrews, Ector, and Midland, in Texas.

The infestations in Andrews and Ector Counties were found by field inspections, the others having been found by the use of the gin trash machines. Specimens were also found, with the machine, in trash from all seven gins in the Juarez Valley, in Mexico, which is just across the Rio Grande opposite the El Paso Valley.

The infestation in the Salt River Valley of Arizona is now known to exist in the following general localities; South and southwest of Tempe, south and east of Chandler, the vicinity of Coolidge, and Lehi section, near Laveen, near Glendale, and a few miles west of Avondale, which is about 25 miles west of Phoenix. These infestations are so light that it is only with great difficulty that specimens can be found by field inspection.

GYPSY MOTH (Porthetria dispar L.)

Approximately 25 of the most experienced and expert employees of the Scouting and Extermination project have been making an intensive examination of the tree growth in Dukes Park, Somerville, N. J., where the gypsy moth was discovered in 1920. Much of the growth examined consists of Koster blue spruce trees, many of which are of large size. No infestation has been found this year in the area examined in Dukes Park up to January, 1931.

A report was received in December from the New York Conservation Department stating that approximately 85 egg clusters had been found up to December 23, 1930, at 19 points in the vicinity of Roslyn, L. I., where a large isolated infestation of the insect was discovered early last year. Intensive scouting operations are being continued by the State in the vicinity of this infestation.

INSECT CONDITIONS IN PORTO RICO DURING JANUARY AND FEBRUARY, 1931.

M. D. Leonard

Insular Experiment Station, Rio Piedras, Porto Rico.

Beginning last December a general infestation of the yellow cane aphid (Sipha flava Forbes) has been building up in the western end of the island. Continued dry weather, and in some sugarcane fields a considerable percentage of parasitism of the larvae of the predacious coccinellid Cycloneda sanguinea L. by a chalcid resulted finally in considerable damage to young ratoon and plant cane. The principal area involved includes, from northwest to southwest, the towns of Isabela, Moca, Aguada, Rincon, Anasco, Mayaguez, Hormigueros, San German, Cabo Rojo, Lajas, and Guanica. Several local representatives of the Department of Agriculture told me that this has been the worst infestation for several years; not only Japanese cane but also P. O. J. 28-78 have been affected.

Sugarcane mealybugs (Pseudococcus spp.) are present in moderate numbers in several sugarcane fields examined near Arecibo and Barceloneta during the latter part of February. The agricultural agent at Mayaguez has reported that mealybugs have been present in that general section since the first of the year in moderate numbers, which is normal.

The agricultural agent at Mayaguez reported that during February a planting of about 500 acres of sugarcane near Hormigueros was found at cutting time to have about 90 per cent infestation of the sugarcane borer (Diatraea saccharalis Fab.) and that the sucrose content was considerably reduced.

The field manager of a large sugar central near Agudilla told me recently that white grubs (Phyllophaga spp.) had been considerably reduced during this past season largely owing, he felt, to the introduction two years ago of a number of toads (Bufo marinus) which had increased rapidly.

Mr. Hein reports that he had found a few papaya fruits infested by the papaya fruit fly (Toxotrypana curvicauda Gerst.) in and near Laros several times during January and February.

A light infestation of beans at the Experiment Station by Heliothis obsoleta Fab. was reported in February. Less than 1 per cent of the pods in about 1 acre was injured. (A. S. Mills.)

One larva of Maruca testulalis Geyer was found at Rio Piedras in a pod (Crotalaria sp.). A light infestation of larvae in blossom buds and pods of lima beans occurred at Rio Piedras and also a light infestation in pods of string beans and pods of pigeon peas. (A. S. Mills.)

Larvae of Phlyctaenia rubigalis Guen. did considerable damage to the leaves of both lima and string beans at Rio Piedras. (A. S. Mills.)

The bean lacebug (Corythucha gossypii Fab.) is present in nearly all string and lima beans examined, in much smaller number than during the past summer months. (A. S. Mills.)

A leafhopper (Empoasca sp.) is abundant and injurious in both lima and string bean fields at Rio Piedras. (A. S. Mills.)

Larvae of Utetheisa ornatix L. are abundant in bean pods at Rio Piedras. (A. S. Mills.)

Diaprepes spengleri L. is found eating the leaves of string beans at Isabella. (A. S. Mills.)

Eggplant fields at Rio Piedras, Dorado, Humacao and several other places on the island were infested by the eggplant lacebug (Corythaica monacha Stal). In several fields the insect was very abundant and causing much of the leaf surface to turn white. (A. S. Mills.)

Myzus persicae Sulz. is present on eggplant in small numbers in Rio Piedras, Dorado, Humacao, and several other places on the island.

Epitrix cucumeris Harr. was moderately abundant on about one-half acre of eggplants at the Experiment Station at Rio Piedras late in February.

About 50 acres of onions in some patches which had not been sprayed near Arecibo were examined on February 18 and found to be badly infested by the onion thrips (Thrips tabaci Lind.).

The melon worm (Diaphania hyalinata L.) is moderately abundant at Manati in squash and cucumber and in cucumbers at Arecibo. (A. S. Mills.)

About 20 per cent of the tomato fruits of a small garden near Rio Piedras were being punctured by Nezara viridula L. (A. S. Mills.)

About 50 per cent of the fruits of tomato in a small garden near Rio Piedras were being punctured by Phthia picta Drury, all stages being present. (A. S. Mills.)

About one-half acre of cabbage near Rio Piedras was considerably infested by the diamond-back moth (Plutella maculipennis Curtis). Most of the leaves had feeding holes. A very bad infestation was also observed on a small patch of cabbage at the Experiment Station late in February, some plants being totally destroyed. (Leonard and Mills.)

A light infestation of the corn ear worm (Heliothis obsoleta Fab.) has been observed at Rio Piedras on pepper and a moderate infestation at Rio Piedras and Arecibo on tomatoes. (A. S. Mills.)

A light infestation of a stink-bug (Arvelius albopunctatus DeG.) on pepper has been observed at Corozal. (A. S. Mills.)

The last of February two cotton fields at Coamo near the south coast were quite badly infested by the cotton leaf worm (Alabama arillacea Fbn.). The insect was very injurious from about the middle of December, 1930,

throughout January in the Villalba section comprising about 1,000 acres of cotton and also at the same time around Coamo; a bad infestation also occurred during January at Guayanilla on the south coast and late in January at Carolina (comprising about 300 acres) on the north coast east of San Juan, which has the same planting date as has the south-coast crop. It is believed from continued close personal observation that the leaf worm was present in injurious numbers somewhere in either the north or south coast (there is no cotton grown elsewhere) during every month in the year 1930. Continued close observation on this point may throw some light upon the origin of the well-known periodicity of outbreaks of this insect. (Mr. Rorke.)

The whole south coast, comprising 10,000 acres, is generally infested with the pink boll worm (Pectinophora gossypiella Saund.). Infested bolls were first noticed at the start of picking in late December or early January and the number has steadily increased. The situation is very much worse than it was last year or during any previous year. Late in February a $3\frac{1}{2}$ -acre field near Ponce was found to have 95 per cent infested bolls. About one-third of the crop in the south coast was picked by February 28. The crop in the north coast (west of San Juan) is still composed only of young plants. (Mr. Rorke.)

A cotton stainer (Dysdercus andreae L.) was more abundant than usual in cotton on the south coast during February and possibly part of January. (Mr. Rorke.)

A blister mite (Eriophyes gossypii Banks) was common in one cotton field of several acres at Guayanilla during February. (Mr. Rorke.)

A leaf miner (Nepticula gossypii Forb.) was fairly common on cotton at both Coamo and Guayanilla during February. (Mr. Rorke.)

INSECT CONDITIONS IN MEXICO UP TO MARCH 9, 1931.

A. H. Amis and A. W. Morrill.

Cutworms (Noctuidae) have done little or no damage during the present season. These insects usually cause considerable damage to the first setting of the tomato crop.

A flea hopper, Halticus bracteatus Say, has been practically absent during the present season, as has been the case since its unexplained decline in numbers during the vegetable season of 1926-27. For a period of two or three years ended with the calendar year 1926 this insect caused extensive damage to tomatoes in the State of Sinaloa, but during the last years has rarely been found in tomato fields and only occasionally in seed beds during the fall months.

A leaf folder (Phthorimaea lycopersicella Busck) was at first quite severe in the tomato seed beds and early plantings in the fall of 1930, but up to the present time (March 9) has been doing little or no damage to the fruit. It is invariably present in injurious numbers during the latter part of March and through April and May and damage is therefore anticipated.

A stalk borer (Trichobaris sp.) has been rather serious on tomato plants in the river sections in Sinaloa. This is the first observation of noticeable damage from this insect during the past eight years of observations. The cocklebur is an alternate host plant.

The potato aphid (Macrosiphum solanifolii Ashm.) has been unusually prevalent and has done considerable damage to bell peppers this season in the State of Sinaloa.

The pea aphid (Illinoia pisi Kalt.) has been unusually abundant on the entire west coast of Mexico where peas were planted, especially in the Fuerte and Yaqui Valleys.

The corn ear worm (Heliothis obsoleta Fab.) has been responsible for only a small percentage of loss of corn this season.

The last cotton crop on the Mexican west coast was seriously affected by a mirid bug. Presumably the Mexican species is the same as that identified by Dr. Knight in 1928 as Creontiades debilis Van D. which attacks the squares in a manner similar to the attack of Lygus elisus Van D. in Arizona and California.

INSECT CONDITIONS IN GUATEMALA DURING JANUARY AND FEBRUARY, 1931

Marston Bates

12 Calle Oriente No. 1, Guatemala.

Aphids (Aphididae) are among the most injurious insects of agriculture, and we have many injurious species in Guatemala.

Aphis asclepiadis Fitch is very common in the region of Tela, Honduras, on the flowers of Asclepias sp.

Aphis gossipii Glov. is one of the most destructive aphids in the United States. In Lancetilla, Honduras, it has been found on Annona sp. and Hibiscus sp. In the region of Antigua, Guatemala, it has been attacking the avocado (Persea americana) and the loquat (Eriobotrya japonica). A very heavy infestation of this aphid on watermelon was found in the vicinity of Amatitlan. Two species of syrphidae were common predators, and may serve to check the outbreak.

Brevicoryne brassicae L. is the common aphid of white cabbage. It has been found at Tumbador and San Marcos.

Macrosiphum luteum Buckt. was found in an orchid in Tumbador.

Two species of Myzaphis attack roses in Colomba and Tumbador.

Myzus persicae Sulz. has been found on oranges at Guatemala.

Toxoptera aurantiae Boyer is the common citrus aphid in Guatemala. It has also been found attacking cacao and coffee in Zacapa, Colomba, Antigua, Retalhuleu, and Guatemala.

Neotoxoptera sp. was found injuring frijol (Dolichos sp.) at Chimaltenango.

Severe injury to potatoes by wireworms (Elateridae) was reported from Tecpan.

Cerataphis lataniae Boisd. is an aphid that attacks the young palms in tropical America. In Lancetilla, Honduras, it attacks the palm Ptychosperma sp.

Stenoma annonella Sepp. - A common pest in lowlands of Honduras, it was bred from Annona muricata from Virginia. It is our first record from this country. The fruits of various species in the high lands are frequently infested with two species of Lepidoptera, but the Stenoma has not so far been found.

The oviposition scars of an undertermined insect were very common in certain fincas of the Antigua region in February and March of last year, but not outside of this district. At that time I was unable to

determine the cause of the trouble, as constant travelling did not permit breeding work. This year when the same scars appeared again, we were able to breed out the animals, finding them to be crickets. This year the appearance of the scars was first reported in January. A hasty survey showed that the pest could be found in almost all of the fincas of the Antigua region, although not common in many of them. The most severe infestation so far found is along the edge of a plantation, near extensive cane fields. Jars with syrup have been buried in many likely places, in the hope of catching adults, but so far with no success. In fact, the outstanding mystery in connection with this plague is: where are the adults? Perhaps it is the wrong season, but the freshness of the oviposition scars would seem to contradict this.

The cottony-cushion scale (Icerya purchasi Mask.) was found very abundantly in gardens in Quezaltenango and Huehuetenango: The plants affected included Citrus, Acacia, Laurus, rose, apple, Mimosa, beech, and ivy. Specimens were sent to Dr. Morrison to check the determination.

